REMARKS

Claims 1-11 are pending in the application. Claim 1 has been previously amended in the preliminary amendment dated March 1, 2000. Claims 5-11 have been added. Claim 1 was objected to because of the informalities. Claims 1-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hanagata (U.S. Patent No. 5,953,058), Sugiyama (U.S. Patent No. 6,262,779) and Tanji (U.S. Patent No. 5,767,900). Applicants respectfully traverse the objection and rejections as follows.

A. Objection to claim 1

Claim 1 was objected to because limitations of "a contour-adjusting circuit" and "a selecting circuit" conflict with each other. The Office Action asserts that the limitation of "a contour-adjusting circuit for performing contour adjustment by peaking R, G, B ... or by peaking only a Y signal ..." conflicts with the limitation, "a selecting circuit for selecting in accordance with the type of input video signals...." In particular, the Office Action asserts that the selecting circuit limitation requests to have at least two types of input video signals for selecting.

Applicants submit that there is no conflict in the limitations of the contour-adjusting circuit and the selecting circuit because both circuits process either R, G, and B signals or Y, Pr and Pb signals. Nevertheless, Applicants have amended claim 1 to clarify the limitation of the selecting circuit. Thus, claim 1 is allowable as amended and Applicants respectfully request the Examiner to withdraw the objection to claim 1.

B. 35 U.S.C. § 103

Claims 1-4 are patentable because the prior references do not disclose a video signal processing circuit having a contour-adjusting circuit, an inverse matrix transforming circuit and a selecting circuit, as defined in claims 1-4, either individually or in combination.

Claims 1-4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hanagata in view of Sugiyama and Tanji. The Office Action asserts that it would have been obvious to one having the ordinary skill in the art to combine the contour-adjusting circuit and the inverse matrix transforming circuit disclosed in Hanagata with the selecting circuit disclosed in Sugiyama and further combine the contour-adjusting circuit of Hanagata with the contour-enhancement circuit disclosed in Tanji. Applicants respectfully disagree.

Claim 1 recites the video signal processing circuit comprising the contour-adjusting circuit, the inverse matrix transforming circuit and the selecting circuit. The contour-adjusting circuit performs contour adjustment by peaking R, G, B signals from video signals in one of an NTSC system and a PAL system or by peaking only a Y signal from transmission color signals in a high definition televisions system. The contour-adjusting circuit outputs at least one adjusted signal. The inverse matrix transforming circuit separates the R, G and B signals from the adjusted Y signal and the Pr, Pb signals among transmission color signal. The selecting circuit selects at least one switch to relay either R, G, B signals or Y, Pr, Pb signals, in accordance with the type of input video signals.

Contour-adjusting Circuit

The Office Action asserts that Hanagata discloses the contour-adjusting circuit of claim 1 and that constant generating circuit 4 of Hanagata corresponds to the contour-adjusting circuit for peaking only a Y signal among transmission color signals in a high definition television system (Y, Cr, Cb). The Office Action concedes that Hanagata does not disclose that the contour adjustment is performed on the R, G, B signals in the NTSC/PAL system. However, the Office Action asserts that Tanji discloses such contour-adjustment on R, G, B signals.

The constant generating circuit 4 of Hanagata does not disclose "contour-adjustment by peaking R, G, B signals from video signals in one of an NTSC system and a PAL system or by peaking only Y signal from transmission color signals in a high definition television system," as defined in claim 1. In Hanagata, the constant generating circuit 4 does not even receive Y signal as its input. It only receives a vertical edge signal. *See* column 5, lines 37-38 and Figure 2A. The constant generating circuit 4 of Hanagata does not perform the contour-adjustment by peaking only Y signal in the HDTV system. Rather, the constant generating circuit 4 generates a constant corresponding to the level of the vertical edge signal to a constant multiplying circuit 5 for controlling the integration of spurious R, G, B signals. *See* column 5, lines 38-39. If the level of the vertical edge signal is high, the constant generating circuit 4 provides a constant to lower the levels of the R, G, B signals; otherwise, the constant generating circuit 4 provides a constant not to change the levels of the R, G, B signals. *See* column 5, lines 48-58.

Along with Hanagata, Tanji does not disclose "contour-adjustment by peaking R, G, B signals from video signals in one of an NTSC system and a PAL system." Tanji discloses a video signal processing apparatus for digitally enhancing the contours of a video signal. In Tanji, the contour-enhancement is not performed by peaking the R, G, B signals. Instead of peaking the R, G, and B signals, a detail signal is produced and added to each of the digital color signals DR, DG and DB to prevent over-enhancement of blurred contour in Tanji. *See* column 3, lines 46-51 and Figure 2. Thus, neither Hanagata nor Tanji discloses the contour-adjusting circuit defined in claim 1.

Inverse Matrix Transforming Circuit

The Office Action asserts that Hanagata discloses an inverse matrix transforming circuit of claim 1 and that both primary color generation circuit 21 and constant multiplying circuit 5 correspond to the inverse matrix transforming circuit.

Hanagata does not disclose "an inverse matrix transforming circuit separating, by performing inverse matrix transformation, the R, G, and B signals from the adjusted Y signal, a Pr signal and a Pb signal among transmission color signals," as defined in claim 1. The primary color generating circuit 21 of Hanagata generates a first color difference signal (Cr) and a second color difference signal (Cb) from the first-line signal and the second-line signal. *See* column 4, lines 41-44 and Figure 2A. R, G and B signals are generated from the first color difference signal (Cr) and the second color difference signal (Cb). *See* column 4, lines 48-52. Thus, the primary color generating circuit 21 of Hanagata does not separate, by performing inverse matrix transformation, the R, G, B from the adjusted Y signal, a Pr signal and a Pb signal from transmission color signals, as defined in claim 1.

In addition, the constant multiplying circuit 5 of Hanagata does not separate the R, G, B signals from the adjusted Y signal, the Pr signal and the Pb signal. The constant multiplying circuit 5 of Hanagata multiplies the R, G and B signals by the constant provided by the constant generating circuit 4. *See* column 5, lines 59-61 and Figure 2A. Thus, Hanagata does not disclose the inverse matrix transforming circuit of claim 1.

Selecting Circuit

The Office Action concedes that neither Hanagata nor Tanji discloses a selecting circuit of claim 1. However, the Office Action asserts that Sugiyama discloses a video signal processing apparatus including a NTSC signal input terminal 1, a HDTV signal input terminal 2,

a PC signal input terminal 3, and a selecting circuit (switch 4) for selecting the type of input video signal inputted into the input terminals 1, 2 and 3.

Sugiyama does not disclose "a selecting circuit selecting at least one switch, in accordance with the type of input video signals, to relay either the R, G, and B signals in which contour adjustment is performed or the Y signal, in which contour adjustment is performed, and the Pr signal and the Pb signal, in which contour adjustment is not performed" of claim 1. Sugiyama merely discloses that the NTSC signal, the highvision signal and the PC signals are inputted into the input terminals 1-3 and selected by switch 4. *See* column 3, lines 56-59. In this regard, the Office Action misinterprets the selecting circuit of claim 1 as selecting the type of the input video signals. Applicants submit that claim 1 specifically recites that the selecting circuit selects at least one switch to relay either the R, G, and B signals or the Y, Pr and Pb signals, in accordance with the type of input video signals. The switch 4 of Sugiyama does not disclose such selection claimed in claim 1. Thus, Sugiyama does not describe the selecting circuit of claim 1.

Combination of Hanagata, Sugiyama and Tanji

Hanagata and Tanji do not disclose the contour-adjusting circuit and the inverse matrix transforming circuit, as defined in claim 1. In addition, Sugiyama does not disclose the selecting circuit defined in claim 1. Thus, even if Hanagata, Tanji and Sugiyama may be combined with one another, such combination does not teach or suggest the video signal processing circuit of claim 1.

Furthermore, other than Applicants' disclosure, there is no motivation to combine Hanagata with Tanji and Sugiyama. In this regard, the Office Action asserts that Sugiyama and Tanji are, respectively, evidence that the one of ordinary skill in the art to see more advantages

for a video signal processing system (i) not to be limited by the type of input video signals so that has more flexibility to process video signals in low cost and power consuming (Sugiyama) and (ii) to perform contour adjustment by peaking R, G, and B signals for suppressing blurred contours and increasing image quality (Tanji). The Office Action concludes that for that reason, it would have been obvious to combine Hanagata with the selecting circuit of Sugiyama and a video signal processing circuit performing contour-adjustment on the R, G, B signals disclosed in Tanji.

Applicants respectfully submit that "[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991); MPEP § 2142 at 2100-124. The advantages that the Office Action asserts to combine Hanagata with Sugiyama and Tanji are not found in prior arts but in only Applicants' disclosure. Sugiyama does not describe advantage of the flexible video signal processing circuit that results from performing the contour-adjustment in both NTSC/PAL and HDTV systems. Sugiyama does describe the advantage of low cost. However, in Sugiyama, the low cost is achieved not by the flexible contour-adjustment but by reduction of deflection current in a progressive scanning mode of the NTSC signal. *See* column 6, lines 20-36. Furthermore, Tanji explicitly teaches away from peaking R, G, B signals for performing the contour-adjustment. Tanji limits the value of the detail signal that is subsequently added to digital color signals, DR, DG, and DB, thereby suppressing overenhancement of blurred contours. *See* column 5, lines 25 – column 6, lines 16. Thus, there is no suggestion or motivation to combine Hanagata with Sugiyama and Tanji.

Based on the above, none of the prior arts does teach or suggest the video signal processing circuit defined in claim 1, either alone or in combination. Thus, pending claims 1-4

are not obvious under 35 U.S.C. § 103(a) over Hanagata in view of Sugiyama and Tanji. Applicants respectfully request the Examiner to withdraw the rejections to claims 1-4.

C. New Claims 5-11

Claims 5-11 have been newly added. Support for these claims may be found in page 6, line 19 – page 10, line 8 and Figures 2-3, and no new matter is introduced.

New claims 5-11 depend directly or indirectly upon claim 1 and so are patentable for at least the same reasons given above in Section B. The claims are patentable for additional reasons that they each cite at least one peaking circuit and a determining unit. None of the cited references, either alone or in combination, discloses the peaking circuit and the determining circuit defined in claims 5-11. Thus, claims 5-11 are patentable and should be allowed.

Please note that new claims 5-11 are being presented to provide additional coverage for a video signal processing circuit and so are not being presented for reasons of patentability as defined in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd*, 535 U.S. 722 (2002).

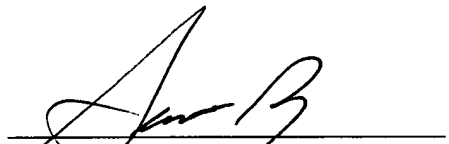
D. The Prior Art Made of Record

The eleven prior references have been made of record, although they have not been relied upon by the Examiner in issuing this Office Action. Applicants respectfully submit that Yang (U.S. Patent No. 6,377,313: Sep. 21, 1999), Lin (U.S. Patent No. 6,628,330: Nov. 3, 1999) and Suzuki (U.S. Patent No. 6,433,836: Sep. 24, 1999) are not proper references as they have been filed later than the priority date of this application, March 3, 1999. Applicants respectfully request the Examiner to withdraw Yang, Lin and Suzuki from the prior art made of record.

CONCLUSION

In view of the arguments above, pending claims 1-11 are patentable. Applicants respectfully request the Examiner to grant early allowance of this application. If for any reason, the Examiner is unable to allow the application in the next Office Action and believes that an interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned attorneys at (312) 321-4200.

Respectfully submitted,



Gustavo Siller, Jr.
Registration No. 32,305
Attorney for Applicants

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200